

ABSTRACT

A method and apparatus for determining abnormal pressure zones of a geologic formation using NMR measurements, preferably for logging-while-drilling applications. In a preferred embodiment, a normal compaction trend is constructed using NMR-derived clay bound water volume (CBW) content for non-consolidated subsurface formations or bulk volume irreducible (BVI) and CBW for consolidated formations versus depth. Deviations from this normal compaction trend are used to indicate the presence of shale sections with higher porosity that directly corresponds to an overpressured top seal or transitional zone.